

NOTES ON ANTHRIBID WEEVILS. III.
NEW SPECIES AND RECORDS PRIMARILY FROM
ARIZONA (COLEOPTERA: ANTHRIBIDAE)

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ABSTRACT

Redescriptions and new records are presented for: *Ischnocerus impresicollis* Jordan from Mexico (Morelos) and Arizona, *Ischnocerus angulatus* Martin from Arizona, *Toxonotus cornutus* (Say) from Mexico (Durango, Chihuahua, and Nayarit), and *Toxonotus vagus* (Horn) from Mexico (Baja California, Morelos) and Arizona. *Eugonus bicolor* n.sp. and *Euparius pictus* n.sp. are described and illustrated from SE. Arizona. *Euparius subtesselatus* Schaeffer is recorded from Texas, New Mexico, Arizona, and Mexico (Chihuahua and Durango).

This is the third in a series of papers presenting taxonomic information developed, in large part, incidentally to other studies. The data presented record 4 species new to the United States fauna, describe 2 of these as new species, and provide new distribution data for 2 additional species in the United States (Arizona, Texas) and northern Mexico. The new species were mentioned by me (1960) but not described due to inadequate material. Both are from extreme southeastern Arizona.

ACKNOWLEDGEMENTS

Part of these studies were made at the British Museum (Natural History) while I was the recipient of a National Science Foundation travel grant from the Entomological Society of America to attend the XIIth International Congress of Entomology; and it is my special pleasure to express my gratitude to the authorities of the British Museum, especially Mr. R. T. Thompson, for unfailing assistance, courtesy, and friendship. The important specimens from the State of Morelos, Mexico were collected by Dr. G. E. Ball in conjunction with work on NSF Grant GB-3312. Figures 1 and 2 were drawn by Mr. David M. Dennis, scientific illustrator of the College of Biological Sciences of The Ohio State University.

The material studied is from the following institutions or personal collections:

American Museum of Natural History [AMNH]; Barry D. Valentine [BDVC]; British Museum (Natural History) [BMNH]; California Academy of Sciences [CASC]; Charles W. O'Brien [CWOB]; Florida State Collection of Arthropods [FSCA]; Henry and Ann Howden [HAHC]; Museum of Comparative Zoology [MCZC]; Ohio State University [OSUC]; University of Arizona [UAIC]; University of California at Davis [UCDC]; United States National Museum [USNM].

ISCHNOCERUS SCHÖNHERR

Ischnocerus Schönherr, 1839:191. Type: *Ischnocerus infuscatus* Fahraeus, 1839, by original designation.

Meconemus Labram and Imhoff, 1842:40. Type: *Meconemus tuberculatus* Labram and Imhoff, 1842, by monotypy. See Valentine (1960:55-56) for discussion of this synonymy.

The original descriptions of the following 2 species are so similar that they appeared to be synonyms. Examination of type material and topotypes of both taxa shows that, despite a striking superficial similarity in color pattern (both have dense white pubescence on rostrum, pronotal disc, scutellum, and pygidium), the 2 are distinct. *Ischnocerus angulatus* is still known only from Arizona; however, *Ischnocerus impressicollis*, described from Mexico, is here reported from the United States for the first time. Both species belong to the group which includes the type species, *Ischnocerus infuscatus*, all characterized by a small post-ocular tubercle on the anterior edge of the prothorax.

Ischnocerus impressicollis JORDAN

Ischnocerus impressicollis Jordan, 1895:373. Holotype [BMNH], Mexico, Cuernavaca. Jordan, 1906:306, pl. 10, fig. 5,5a.

Pronotum with antebasal carina clearly interrupted medially, the carinal ends on either side of the gap curving towards the scutellum; pronotal base with white pubescence extending laterally slightly beyond the basal tuft of the third elytral interspace, the white patch wider at transverse carina than at true pronotal base; elytral suture with a very small post-scutellar patch of creamy white to pale tan bristles of the same color as the adjacent scutellum, this patch, at best, about as large as the scutellum; elytral apex with part of declivity invisible from above, due to a broad preapical callus which is conspicuously higher than the declivous portion of the suture; mesepisternum with sparse pubescence, and dispersely punctured.

Specimens examined: MEXICO, State of Morelos, Cuernavaca, male Holotype, [BMNH]; 5.4 mi. E. Cuernavaca, 4600', 29-30-VI-66, pedregal, G. E. Ball and D. R. Whitehead [BDVC] (2). UNITED STATES, Arizona, (Cochise Co.), Portal, 7-VII-67, F. J. Moore, [OSUC, BDVC] (2). *FIRST UNITED STATES RECORD.*

Ischnocerus angulatus MARTIN

Ischnocerus angulata Martin, 1930:71. Holotype: [CASC #2977], Arizona, near Patagonia, 9 July, 1930, (J. O. Martin), on the dead branches of a large willow tree.

Pronotum with antebasal carina clearly entire, the central portion forming a large posteriorly-directed loop; pronotal base with white pubescence extending laterally as far as the basal tuft of the third elytral interspace, the basal white patch not widened next to the transverse carina; elytral suture without a post-scutellar pale spot, the pubescence brown or gray, contrasting with the creamy scutellum; elytral apex with entire apical declivity visible from above, the preapical callus absent or only slightly indicated; mesepisternum glabrous, polished, with at most 2 or 3 punctures.

Specimens examined: UNITED STATES, Arizona, Santa Cruz Co., Patagonia, 9-VII-30, J. O. Martin, [CASC] (1 paratype); Patagonia, VII-36, E. S. Ross, [BDVC] (1); Nogales, 2-VII-55, D. J. & J. N. Knull, [BDVC] (1); Nogales, 15-VII-52, D. J. & J. N. Knull, [OSUC] (1); Cochise Co., Portal, 7-VII-67, F. J. Moore, [OSUC] (1).

TOXONOTUS LACORDAIRE

Toxonotus Lacordaire, 1866:575. Type: *Anthribus fascicularis* Schönherr, 1833, by monotypy.

Neanthribus Jordan, 1906:341. Type: *Neanthribus championi* Jordan, 1906, by original designation. For synonymy see Valentine, 1960:65-66.

Both species discussed below have 3 black spots on the elytral apex, 1 on

the suture and 1 on each elytral tip. Included in the discussion are a new record for the United States (Arizona), and new records for Mexico.

Toxonotus vagus (HORN)

Anthribus vagus Horn, 1894:359, 448. Holotype originally in the California Academy of Sciences, San Francisco, probably destroyed by the 1906 fire and earthquake, from Baja California, "El Taste".

Jordan's (1906) study of the Central American species of "*Neanthribus*" omits this Mexican species described from Baja California. *Toxonotus vagus* looks like a diffusely marked *T. cornutus* (Say) but lacks the small apical tufts on the pronotum, and it has only 1 basal tuft on the elytra, in the third interspace. *Toxonotus cornutus* has a pair of small tufts on the pronotal apex (as does *T. championi* Jordan, and *T. segregus* Jordan), and basal tufts in elytral interspaces 3 and 5. In Jordan's key (1906:342) to the Central American species, *T. vagus* runs to the first half of couplet "f". but has only 1 tuft at the elytral base. In my key to United States species (1960:67), it runs to the first half of couplet 3, but lacks the lateral prothoracic ridge anterior to the lateral carina.

The type locality of *T. vagus* at El Taste is mapped and briefly described by Eisen (1895). He says "El Taste (or Candelario) mountain, c. 5,500 ft. altitude, at the southern end of the high sierras of the Cape region; forming roughly an equilateral triangle with Cape San Lucas and San Jose del Cabo." To my knowledge, the species has not been reported since Horn's description. The following records include the first for the Mexican mainland and the first for the United States.

Specimens examined: MEXICO, State of Baja California Sur, 5 mi. N. El Refugio, 4-VII-38, Michelbacher & Ross [CASC] (1); Triunfo, 13-VII-38, Michelbacher & Ross [CASC, BDVC] (2); Mesquital, 22-VI-38, Michelbacher & Ross [BDVC] (1); 3 mi. E. of La Burrera, Sierra de la Victoria Mts., 1800 ft., 18-X-68, E. L. Sleeper & F. J. Moore, beating wild cotton [OSUC] (2); State of Morelos, 3.6 mi. E. Cuernavaca. 4600', pedregal, 24-XI-65, G. E. Ball, D. R. Whitehead [BDVC] (1). UNITED STATES, Arizona, Santa Cruz Co., Santa Rita Mountains, 24-VI-39, D. J. & J. N. Knull Collrs., [OSUC] (1). FIRST RECORD IN THE UNITED STATES.

Toxonotus cornutus (SAY)

Anthribus cornutus Say, 1831:4. Holotype: apparently destroyed, from Indiana.

This is the commonest and most widespread species in the United States, ranging from New Jersey to Florida, west to Indiana and Texas. It is usually recognized at a glance by the dense antemedian patch of white pubescence on each elytron; however, a few specimens have these conspicuous spots reduced or even absent. Other features of the species are the presence of 2 tufts on the apical margin of the pronotum, 2 tufts near the base of each elytron in interspaces 3 and 5, and the absence of a longitudinal ridge on the side of the prothorax anterior to the end of the lateral carina.

The species is here recorded from Mexico for the first time. In Jordan's key (1906:342) to the Central American species, *T. cornutus* runs to couplet "b." It differs from *T. championi* Jordan in lacking the stellate black patch on the pronotum, and the pale postmedian chevron; it differs from *T. segregus* Jordan in having transverse, not diagonal, sutural tessellations, and the large second tuft of the third interspace being mostly dark, not conspicuously pale.

Specimens examined: MEXICO, State of Durango, San Juan del Rio, 5,200 ft., 30-VII-47, D. Rockefeller Exp., Gertsch, Cazier, [AMNH, BDVC] (2). State of Chihuahua, 25 mi. S. W. Camargo, 14-VII-47, D. Rockefeller Exp. Gertsch, Cazier, [AMNH, BDVC] (2). State of Nayarit, Mecatan, 800', 23-V-49, E. M. Brandt, [AMNH] (1). FIRST RECORDS IN MEXICO.

EUPARIUS SCHÖNHERR

Euparius Schönherr, 1823:1135. Type: *Anthribus lunatus* Fabricius, 1801, by monotypy. (*A. lunatus* Fabr.=*Macrocephalus marmoreus* Olivier, 1795). See Valentine (1960:56) for synonymy.

There are 55 described species in the New World plus others in the Indo-Australian area. In addition, the British Museum has at least 10 new species from the New World, and I have others. In this entire assemblage, there is nothing which might be confused with the very distinct new species described below from Arizona. When I mentioned the existence of this species in 1960, I had seen only 2 specimens, one of which was not available for loan. I now know of 27 specimens, most collected within the past 15 years.

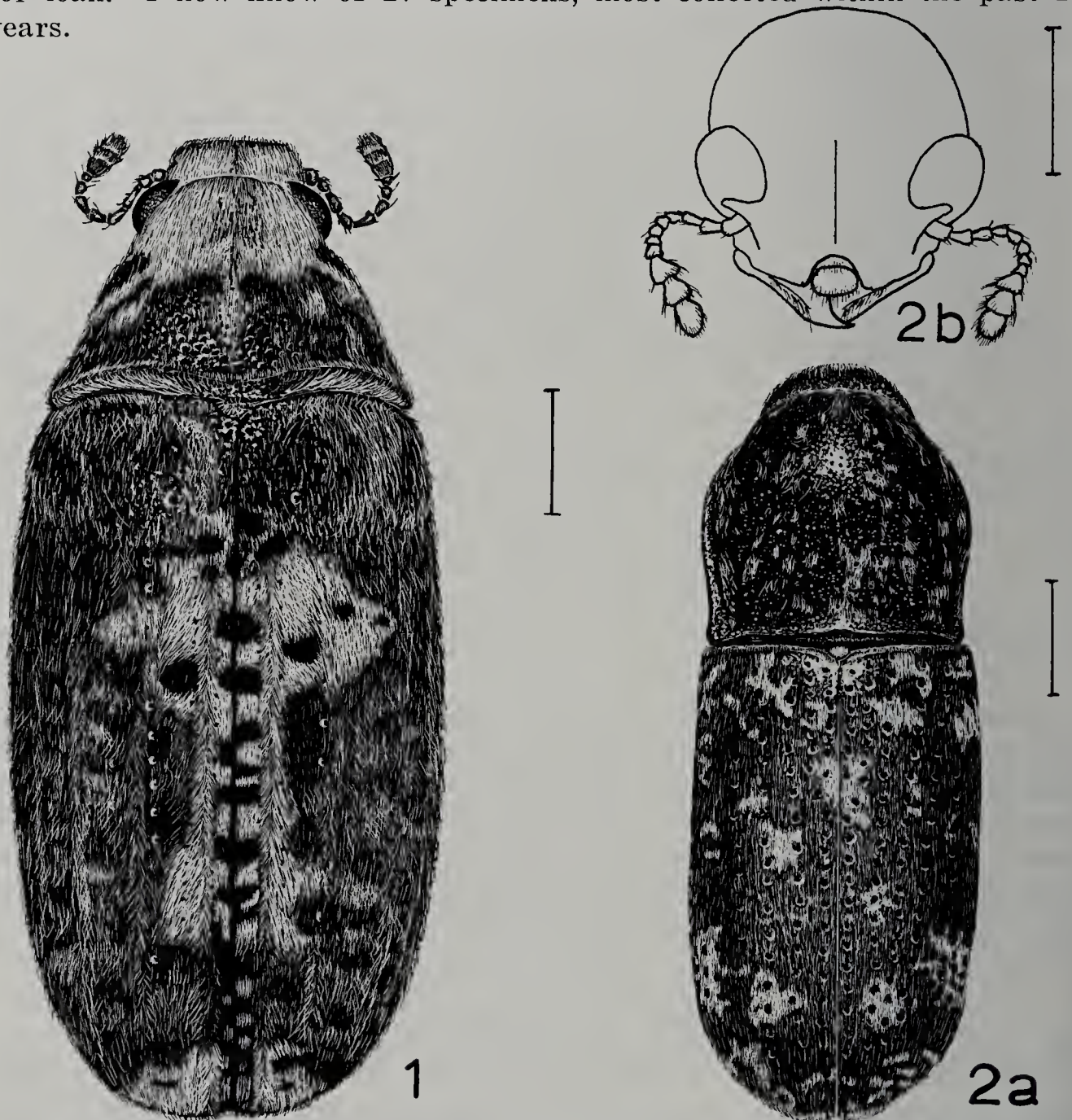


Fig. 1: *Euparius pictus* n. sp., male paratopotype, dorsal view (pronotum foreshortened due to angle; line=1mm). Fig. 2: *Eugonus bicolor* n. sp., male holotype (a: dorsal view, line=1mm; b: facial view, line=0.5mm).

Euparius pictus Valentine, NEW SPECIES

(Fig. 1, 4)

HOLOTYPE, male, labelled "S.W.R.S. [Southwest Research Station], 5 mi. W. Portal, 5400 ft. Cochise Co., Ariz. Aug. 28, 1959" "M. Statham Collector", [AMNH].

DIAGNOSIS: Pubescence tricolored, blackish, white, and brown, the white densest on face, on anterior half of pronotum, on elytral disc forming an elongate sutural patch narrowest in center and widest anteriorly, on apical declivity, on pygidium, on tibiae forming a wide median band, and on first tarsal segment except apex; terminal segment of antenna black, not pale; venter punctate, coarsest on prosternum, weakest on abdomen; intercoxal process of mesosternum not tuberculate.

DESCRIPTION: Holotype (variation in parentheses); length, head excluded 8.5 (7.5 to 9.0) mm. Form elongate cylindrical, dorsum arched to give a weakly hump-backed look. Derm varying shades of brown, black, and red, the redder shades especially evident on even numbered elytral interspaces, on metathorax, and abdominal periphery. Dorsal pubescence on head and rostrum white when degreased; on pronotum white on anterior half, extending laterally to the level of the upper portion of eye, and posteriorly continued as irregular streaks and disconnected spots the most obvious on the median line, the lateral streaks sometimes contacting the transverse carina opposite the base of the sixth elytral interspace, dark areas of pronotum irregularly mottled; on elytra the elongate white sutural patch not conspicuously margined with black except where it contacts the tessellations in the odd interspaces, especially the third, the white apical declivity with a small blackish sutural spot (or tessellation) almost at the elytral apex; scutellum and pygidium white; venter sparsely white or pale gray, densest in the center of the metathorax and at the abdominal apex; legs as in diagnosis. *Head*: densely punctate, rostrum and frons with a weak median carina; eye truncate opposite the scrobes; antennae with segment III considerably longer than II, III to VII progressively shorter, VIII smaller than (or equal to) IX, IX-XI forming an abrupt elongate black or grayish black club, the segments almost symmetrical, IX triangular, X broader than long, XI much longer than broad, the club about as long as IV to VIII combined. *Prothorax*: strongly narrowed from base to apex, sides only slightly inflated, disc faintly swollen on either side of the weakly depressed median line, sculpture of small very dense punctures; transverse carina following curve of elytral base, curving abruptly into the lateral carina, the angle slightly less than 90°, lateral carina weakly sinuate and extending a little less than half way to anterior margin; carinula well developed, short; dorsal punctures dense, small, and shallow, the rims tending to form weak rugae laterally; ventral punctures much larger, deeper, less crowded, and without raised rims; antecoxal strip weakly concave medially, length subequal or slightly shorter than procoxal diameter; ventro-lateral posterior margin with a small flat tooth or condyle about equidistant between coxa and hind angle. *Scutellum*: very small, flush with elytral margins, sparsely pale pubescent. *Elytra*: elongate, parallel-sided, almost cylindrical, the third interspace slightly swollen, the second weakly depressed, but without the large discal concavity of some Neotropical species; humeral callus weakly developed, subbasal callus present but not prominent; striae weakly im-

pressed, the punctures deep, becoming shallow and smaller above apical declivity; the sutural patch of pale pubescence extends laterally to the seventh interspace at its anterior end, then abruptly narrows to include the first and second interspaces, and then widens to include the third interspace posteriorly, it encloses prominent blackish tessellations along the suture and a few larger spots in the third interspace. *Pygidium*: entirely pale pubescent, the cuticle mottled pale orange and brown (darker in some other specimens); the punctures fine, the interspaces irregularly roughened. *Abdomen*: with each sternite more densely punctured than the segment before, the punctures small but variable in size, the largest punctures just posterior to the hind coxae. *Pterothorax*: swollen medially; with many large, deep punctures on the metepisternum and metasternum, only a few smaller punctures on the metepimeron; median groove of metasternum glabrous. *Legs*: not elongate, hind femora not surpassing 3rd visible abdominal sternite; tarsi narrow and cylindrical; claws with an acute median tooth; pubescence as in diagnosis; femora mostly pale pubescent but not as dense as other pale areas. *Male*: metasternum not modified; abdomen with a median longitudinal concave area limited laterally by weak ridges, the ridge accentuated by diffuse patches of pale semi-erect bristles on sternites 2, 3, and 4; fifth visible sternite shorter than fourth; hind femora with small, low, rounded tubercles scattered over the posterior surface.

SPECIMENS EXAMINED: total 27, all but 1 from the Chiricahua Mountains, Cochise County, in extreme southeastern Arizona. Holotype male, allotype female, and 20 paratopotypes collected at the Southwest Research Station, 5 mi. W. Portal, 5400 ft., Cochise Co., Ariz. (collectors and dates indicated): M. Statham, 28-VIII-59, (holotype, allotype and 2 male paratopotypes); M. Statham, 14-VIII-59, (1 female paratopotype); M. Statham, 16-VIII-59, (2 male paratopotypes); M. Statham, 23-VIII-59, (1 male paratopotype); M. Statham, 9-IX-59, (1 male paratopotype); M. Statham, 28-IX-61, (1 male, 1 female paratopotype); M. A. Cazier, 22-IX-60, (1 female paratopotype); C. and M. Cazier, 28-30-IX-60, (1 female paratopotype); W. Gertsch and M. Cazier, 11-IX-50, (1 male paratopotype), these specimens divided between AMNH, which has the holotype and allotype, and BDVC; C. G. Moore, 25-XII-58, [UCDC] (1 female paratopotype); J. H. McNally, 25-VIII-58, [CWOB] (1 female paratopotype); P. H. Arnaud, 7-IX-59 [BDVC] (1 female paratopotype); H. V. Weems, Jr., 30-VIII-58, [FSCA] (1 male paratopotype); H. V. Weems, Jr., 7-IX-58, [FSCA] (1 female paratopotype); H. V. Weems, Jr., 9-IX-58; [FSCA, BDVC] (2 male, 1 female paratopotypes). In addition to these specimens from the station, there are also 5 others: Chiricahua Mts., 10-VIII-61, D. J. & J. N. Knull, [OSUC] (1 female paratype); Chiricahua Mts., 30-VII-15, E. C. Van Dyke Collection, [CASC] (1 paratype); Portal, [4700], 7-VII-67, F. J. Moore, [OSUC, BDVC] (2 female paratypes); Huachuca Mts., Garces, 4500-6500, June-September, Biederman, [MCZC, H. C. Fall Collection] (1 paratype).

RELATIONSHIPS: The combination of punctured abdominal sternites and uniformly whitish pubescence on the pygidium will separate this very distinct species from all known to me except *Euparius lugubris* (Olivier) of eastern United States. The Olivier species has bicolored (black and white) (not tricolored) pubescence, and has a very different color pattern, the elytral disc being mostly black, not white.

Another species, *E. subtesselatus* Schaeffer, is sympatric with *E. pictus*, but is very different in color, being mottled browns and blacks and lacking the distinctive whitish patches. It is discussed below.

Euparius subtesselatus SCHAEFFER

Euparius subtesselatus Schaeffer, 1906:274. Holotype [USNM] from "Arizona".

This species is here recorded from Mexico and Texas for the first time. In morphology and facies it resembles *Euparius marmoreus* (Olivier 1795) and especially *Euparius oculatus* (Sharp 1891). The former species is widespread in eastern North America, the latter occurring from Japan to Formosa. The very coarse pronotal and ventral punctures, and narrower

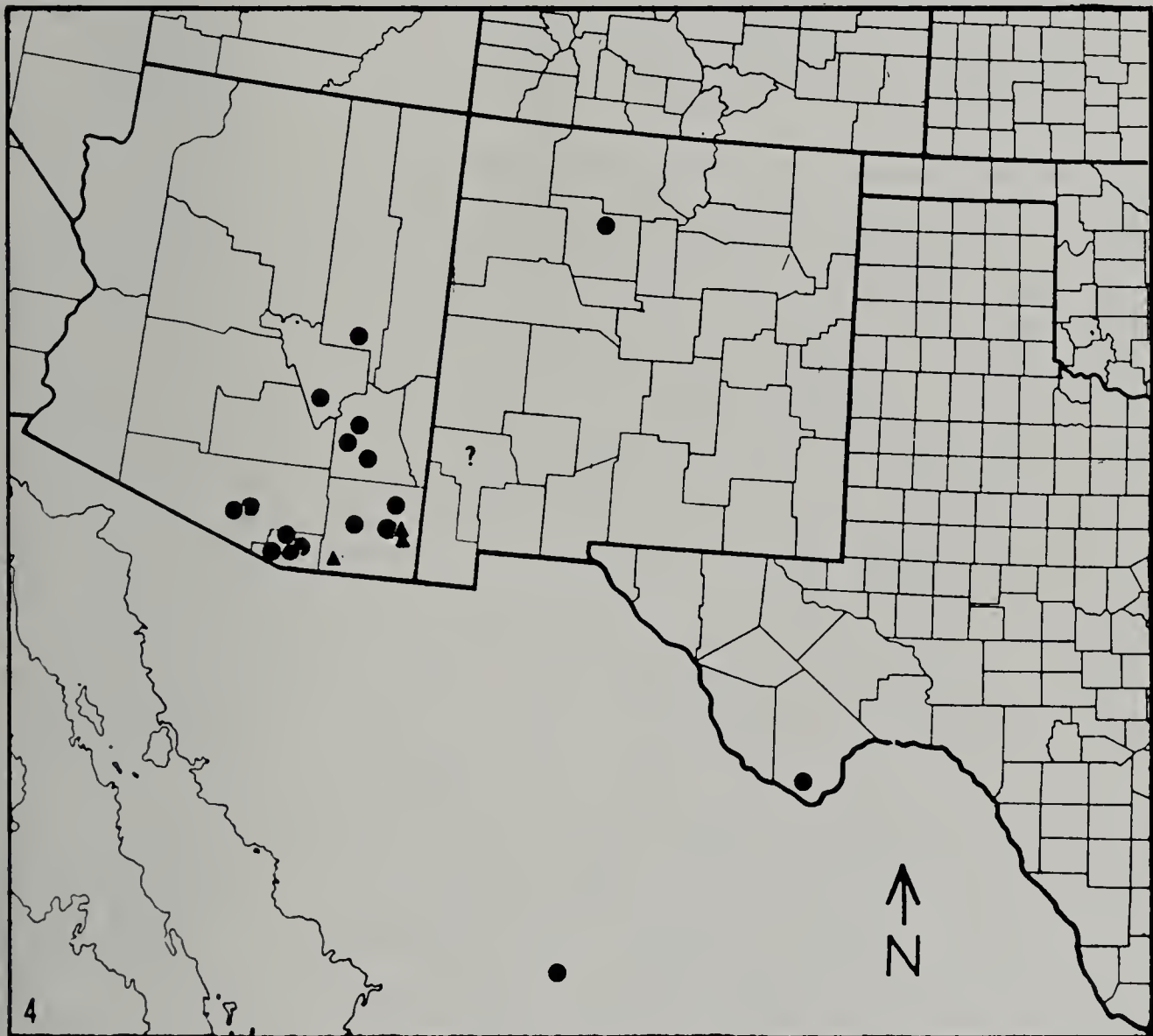


Fig. 3: Distribution of *Eugonus bicolor* n. sp. Fig. 4: Distribution of *Euparius subtesselatus* Schffr. (solid circles) and *Euparius pictus* n. sp. (solid triangles). ? = county record for *E. subtesselatus*.

form distinguish it from *E. marmoreus*, and the less convex eye and white first tarsal segment distinguish it from *E. oculatus*.

Euparius subtesselatus was omitted by Pierce (1930) in his studies of United States Anthribidae, and except for catalogues and incidental mention, appears unnoticed since Schaeffer's original description. Since the species is recorded only from Arizona and New Mexico without specific localities, it is appropriate to summarize the distribution data that have been accumulating (Fig. 4).

Specimens examined: MEXICO, State of Chihuahua, 63 mi. W. Santa Barbara, 5500 ft., 20-VII-47, D. Rockefeller Exp., Cazier, [BDVC] (1); Valle de Olivos 5500' 20-VII-47, D. Rockefeller Expd. Cazier, [AMNH] (1); State of Durango, San Juan del Rio, 5200', 30-VII-47, D. Rockefeller Exped., Michener, [AMNH] (1). FIRST RECORDS FOR MEXICO.

UNITED STATES: Texas, Brewster Co., Chisos Mts., 23-VI-61; 26-VI-61; 17-VII-46; D. J. & J. N. Knull, [OSUC, BDVC] (6); 3-VII-62, W. E. & C. A. Triplehorn, [OSUC] (1); Oak Spr. Big Bend, 22-V-60, H. Howden, on dead willow [BDVC] (1). FIRST RECORDS FOR TEXAS.

New Mexico, Lincoln Co., 10-12 mi. W. Corona, nr. Red Cloud Canyon, Gallinas Pk., Hodges Cabin, 7000', pinyon-juniper, light-trap 7:30 to 10:30, 28-VII-51, #B651 CCH, [AMNH] (1); Sandoval Co., Jemez Springs, 10-VII-54, Cazier & Gertsch, [AMNH] (5); Jemez Springs, 6200', 16-VII-50, T. Cohn, P. Boone, M. Cazier, [BDVC] (1). Grant Co., no other data, in Fall collection, [MCZC] (1); September, 1916 [USNM] (2).

Arizona, no other data, HOLOTYPE male [USNM]. Cochise Co., Southwest Research Station, various dates between 29-V-56 and 9-VII-56, H. and A. Howden, [HAHC, BDVC, UAIC] (11); also H. V. Weems, Jr., at light, 5-6000 ft., 28-VII-58, 2-IX-58, 7-IX-58, [FSCA, BDVC] (3); also O. L. Cartwright, 17-VII-56, 5400 ft. [USNM] (1); Chiricahua Mts., 5 mi. W. Portal, 25-VIII-58, C. G. Moore, [UCDC, BDVC] (5); Chiricahua Mts., D. J. & J. N. Knull, 14-IX-38; 12-VIII-52; 12-VII-53; 15-VII-53; 20-VII-53; 22-VII-53; 27-VII-53; 27-VII-53; 20-VII-55; 24-VII-55; 22-VII-57; 9-VII-59; 16-VII-59; 2-VIII-61; 28-VIII-62; 22-VII-65; 23-VII-67, [OSUC, BDVC] (17); NE slope Chiricahua Mts., 5000', 29-VII-49, Werner, Nutting, [BDVC] (1); Portal, 7-VII-67, F. J. Moore, [OSUC] (1); Chiricahua Mts., Cave Creek, 5-6000 ft., 26-VIII-27, J. A. Kusche, [CASC] (1); Dragoon Mts., Cochise Stronghold, 29-VII-57, C. W. O'Brien, [CWOB, BDVC] (2); Cochise Stronghold, 4600', blacklight trap, 6-IX-65, L. and C. W. O'Brien, [CWOB] (1); Douglas, 3-IX-36, W. W. Jones, [USNM] (1). Gila Co., Globe, 8-VII-49, Werner and Nutting, [BDVC] (1). Graham Co., Pinaleno Mts., Stockton Pass, 4-VIII-48, Nutting and Werner, [BDVC] (2); Geronimo, 6-VIII-48, Werner and Nutting, [BDVC] (1); Mt. Graham, Noon Cr., at light, 28-VII-54, F. G. Werner, [BDVC] (1). Navajo Co., 16 mi. SW. Showlow on U.S. rte. 60, 7000', 10-VIII-48, G. E. Ball, [BDVC] (1). Pima Co., E. side Baboquivari Mts., Brown's Canyon, 29-30-VII-52, H. P. Leech and J. W. Green, [BDVC] (1); Baboquivari Mts., Brown's Canyon, 18-VIII-55, F. G. Werner and G. B. Butler, at light, [UAIC] (1); W. slope Baboquivari Mts., Baboquivari Canyon, 17-VII-49, F. Werner, W. Nutting, [CASC] (1); Santa Catalina Mts., Molino Basin, 4600', at blacklight, 3-IX-65, C. W. O'Brien, [BDVC] (1). Santa Cruz Co., Patagonia, 5-IX-64, at light, C. D. Johnson, [CWOB] (1); Patagonia, VII-34, E. S. Ross [CASC] (1); 2 mi SW Patagonia, willow-cottonwood, 4050', 30-VII-48 F. Werner and W. Nutting, [BDVC] (1); 5 mi SW Patagonia, 3700', 25-VII-50, T. Cohn, P. Boone, M. Cazier, [BDVC] (1); W. slope, Patagonia Mts., 4400', 27-VII-49, F. Werner, W. Nutting, [BDVC] (1); Nogales, 7-VII-49, D. J. & J. N. Knull, [BDVC] (1); Santa Rita Mts., N. slope, Madera Canyon, oak-pine-juniper zone, 5380', 31-VII-48, F. Werner and W. Nutting, [BDVC] (1); Madera Canyon, 5100', Bog Spring Cp. Grd. 10-26-VII-64, D. Davis, [USNM, BDVC] (2); Tumacacori Mts., Sycamore Canyon, Yank's Spring, 3-VIII-52, H. B. Leech and J. W. Green, [BDVC] (1); Peña Blanca Lake, White Rock Camp, at blacklight, 14-IX-64, L. and C. W. O'Brien, [CWOB, BDVC] (2).

EUGONUS SCHÖNHERR

Eugonus Schönherr, 1833:144. Type: *Eugonus vigatus* Gyllenhal, 1833, by original designation and monotypy. See Valentine (1960:61) for synonymy and differentia.

There are presently 8 described species, of which 7 occur from Brazil to Nicaragua. The eighth species, *Eugonus subcylindricus* Fahraeus (1839) occurs from Argentina to southern Mexico. In 1960 I reported a single specimen of a new species from southeastern Arizona, which appeared close to *E. subcylindricus*, but 1 specimen made it impossible to judge the constancy of the differences. I have now seen 22 Arizona specimens from 5 collections, and describe the new species below.

Eugonus bicolor Valentine, NEW SPECIES

(Fig. 2, 3)

HOLOTYPE, male, labeled "Chiricahua M[ountains] VII-30-59 Ar[izona]". "D. J. & J. N. Knull Collrs." "Drawn by D. M. Dennis." [OSUC]. According to Prof. Knull, the actual collection site is in Cave Creek Canyon about 2 mi. se. Portal, at about 5,000 ft., in Cochise County.

DIAGNOSIS: Dorsal pubescence bicolored, mostly dark brown with straw-colored areas forming scattered irregular spots; legs without prominent markings; tibiae longitudinally angulate; venter punctate; metasternum with a deep post-median pit; rostrum and interocular area rugate-reticulate; pronotum with many irregularly spaced punctures, densest near the base.

DESCRIPTION: holotype (variation in parentheses); length, head excluded, 6.5 (5.0-7.25) mm; form elongate, parallel-sided, evenly convex; derm varying shades of reddish-brown, dorsal pubescence mixed dark brown and pale straw, the venter and legs slightly more gray. *Head*: with a weak median carina on rostral apex; entire face densely punctate, the intervening areas convex and forming fine longitudinal reticulate rugae; scattered pale pubescence vaguely concentrated around eyes; antennae very short, not reaching humerae (even with head deflexed), first 2 segments thicker than those following, II slightly longer than III, III to VIII progressively shorter, club abrupt, asymmetrical, almost as long as III to VIII combined. *Prothorax*: widest at anterior third; evenly convex; transverse carina entire, almost basal, meeting lateral carina in an abrupt curve, the resulting angle about 90°, lateral carina continuous to apex where it protrudes as a small flattened shelf-like tooth; dorsum densely and irregularly punctate, most concentrated at basal third and laterally where punctures are separated by a puncture diameter or less, least concentrated and obscure on apex; entire prosterum with large punctures except along both sides of the pleural (supra-coxal) suture, the suture not quite extending to the lateral carina; no deep groove along the ventral apical margin; intercoxal process with a thick curved ridge between the coxae, no long transverse post-coxal ridge nor lamella. *Scutellum*: small, cordate, flush with elytral margin, densely pale pubescent. *Elytra*: elongate, parallel-sided, base almost straight, slightly wider than prothoracic base; raised basal margin continuous around prominent, obtusely-angled shoulders; striae barely impressed except the apical portion of the first, punctures small and deep, spaced dif-

ferently on each stria but usually separated by more than the diameter of a puncture; interspaces faintly convex; extreme apex with just a hint of a marginal swelling beside the sutural angle; pale pubescence most evident in irregular spots on basal third, and in larger patches above apical declivity, these incomplete across the suture. *Pygidium*: with wide median line and narrow periphery reddish brown, remainder gray pubescent; disc with many small very shallow punctures. *Abdomen*: with first 4 sternites each deeply and closely punctate along anterior margin, fifth sternite with traces of basal punctures. *Pterothorax*: with large deep punctures; metasternum with raised rim but no deep groove along hind margin of mesocoxae, and a midventral groove accentuated by a deep elongate pit, the groove ending in another pit between the metacoxae. *Legs*: with femora unicolored, short, greatly swollen, faintly and shallowly punctate; tibiae unicolored, short, flattened, angulate, the apices (especially middle and hind pair) almost rectangular in cross section; tarsi unicolored, short, apical half of first segment convex, of second segment concave, third short, almost hidden from above, deeply immersed in the second and with the lobes short and close together, fourth vertical, small, fifth longer, depressed, widest in the center then slightly narrowed to apex, claws long with a strong antemedian tooth. *Male*: metasternum without paired tubercles anterior to the hind leg insertion; abdominal sternites II, III, IV each with a small median tuft of fine golden bristles; mid tibia with a small apical incurved tooth on lower margin; ventral apex of hind tibia and first two tarsal segments with a few long erect fine golden bristles.

Specimens examined: total 22, all from Cochise County in extreme southeastern Arizona. Holotype male, allotype female, 5 female and 8 male paratopotypes all collected in [Cave Creek Canyon] Chiricahua Mountains, D. J. and J. N. Knull, on the following dates: 26-VII-52 (1 male), 12-VIII-52 (1 male), 27-VIII-53 (1 female), 22-VII-57 (allotype female), 27-VII-57 (1 female), 16-VII-59 (1 male), 30-VII-59 (holotype male and 2 females), 7-VIII-59 (2 females), 15-VIII-59 (1 male), 18-VII-61 (1 female), 25-VII-61 (1 female), 2-VII-61 (1 male); holotype and allotype in OSUC, paratopotypes in OSUC, AMNH, USNM, BMNH, CWOB, MCZC BDVC. Three specimens are known from the Southwestern Research Station of the American Museum of Natural History also in the Chiricahua Mountains, as follows; S.W.R.S., 5 mi. W. Portal, 5400 ft., Cochise Co., Ariz. 15-VII-59, M. Statham [BDVC] (1 male paratype); SW. Res. Sta., Portal, Ariz. 9-VII-56, H. & A. Howden, light, [HAHC] (1 male paratype); also 5-VI-56, [BDVC] (1 female paratype). There are also paratypes from Cochise Stronghold, Dragoon Mts., 13-VIII-1958, C. W. O'Brien, at light, [BDVC] (1 male paratype); Huachuca Mts., [Miller Canyon, el. about 6500 ft. according to Professor Knull], D. J. & J. N. Knull Collrs., 19-VII-50, (2 male paratypes); also 20-VII-36, (1 female paratype) [OSUC, BDVC].

RELATIONSHIPS: This species is closest to *E. subcylindricus*, differing in the nature of the rostral sculpture, pronotal punctuation, and reduced color pattern. *Eugonus subcylindricus* is the most widespread species in the genus; however, specimens from Argentina, Brazil, Paraguay, Guianas, Nicaragua, and Mexico show no trend towards *bicolor* from Arizona. It appears that the 2 forms are discontinuously different, and I therefore refer them to separate species. The 3 species of *Eugonus* in North and Central America can be keyed by the following features:

1. Metasternum with a deep post median pit separate from the apical intercoxal pit

- 1'. Metasternum without a deep post median pit (Nicaragua).....
 *decorus* Jordan
2. Interocular area densely punctured; pronotal base almost im-
 punctate, with a few scattered punctures on either side of
 center (Argentina to S. Mexico) *subcylindricus* Fahraeus
- 2'. Interocular area densely rugate; pronotal base densely punctate
 (SE. Arizona).....*bicolor* n. sp.

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LITERATURE NOTICE

Natural History Collections. Past. Present. Future.—A Symposium of the Biological Society of Washington. Proc. Biol. Soc. Wash. 82:559-762, Nov. 1969. \$4.00, paper. (Available from the Society, c/o National Museum of Natural History, Smithsonian Institution, Washington, D. C. 20560.)

The scope of this volume is illustrated by the Table of Contents: Art and science as influences on the early development of Natural History collections, by P. C. Ritterbush; Vertebrate fossil collections—a fragmentary document, by N. Hotton; Fossils—the how and why of collecting and storing, by E. L. Yochelson; The role of the National Parasite Collection in veterinary parasitology, by W. W. Becklund; The National Collections as biological standards, by R. Cowan; Does Anthropology need museums?, by W. C. Sturtevant; The role of museum collections in ornithological research, by R. L. Zusi; Malacological collections—development and management, by J. Rosewater; Automation in museum collections, by R. B. Manning; The herbarium: past, present, and future, by S. G. Shetler; Summary, by D. Cohen and E. Lachner.

A paper entitled “Entomological collections—the dilemma of success,” was presented by Donald Duckworth but is not included as part of the publication.—R. E. Woodruff.

BOOK REVIEW

Wildlife Crisis by HRH Prince Philip (Duke of Edinburgh) and James Fisher. 1970. Cowles Book Co., Inc., 488 Madison Ave., N. Y. 10022. 265 p., 8 maps, 31 colored plates, 105 black & white fig. Cloth, \$14.95.

This is a beautifully produced, fantastically illustrated, and relevant source book of extinct and endangered birds and mammals of the World (as of Dec. 31, 1969). The list of species was compiled by the International Union for Conservation of Nature and Natural Resources (IUCN). The royalties from the book's sale go to the World Wildlife Fund. In addition to the prestigious authors listed above, there are forewords by HRH Prince Bernhard (Netherlands) and noted author Peter Scott and an epilogue by former U.S. Secretary of Interior Stewart L. Udall.

Aside from the beauty of the book, it is of interest to our readers for other reasons. HRH Prince Philip stated in the Preface:

“It is worth remembering that most of the world's flora and fauna were catalogued and classified by Europeans. I suspect that the rest of the world still looks upon dedicated bird watching, or the collection of everything from Acephalan molluscs to Zabrus beetles as a form of madness.”

I am sure that the 500+ members of our Coleopterists Society would take exception to this statement. Europeans have played an important role in describing the world's plants and animals, due in great part to their colonization of large parts of the globe. However, I believe that the concern, over and conservation of, our wildlife is not confined to Europeans.

The number of extinct and vanishing species of birds and mammals listed in the book is staggering. Of special interest to coleopterists is the fact that many of these vertebrates have specific beetle faunas associated with their nests, burrows, and dung. There are a great number of invertebrates which have already become extinct or are in danger because of this close association with endangered vertebrates. The study of these associated faunas should take high priority in our research.—R. E. Woodruff.